IN THE CLAIMS:

1. (Currently amended) A method <u>executed in a computer system</u> for processing a variable looping statement to enable loop unrolling, comprising:

    determining an upper bound and a lower bound for a loop index within said variable looping statement; determining a condition that must be satisfied, said condition reflecting any conditions within an initial expression and an exit expression of said variable looping statement; and

    forming a constant looping statement, wherein said upper bound and said lower bound define a range of values for a loop index within said constant looping statement, wherein said constant looping statement includes a nested conditional statement which tests said determined condition, wherein a body of said constant looping statement comprises a body of said variable looping statement, and wherein said body of said constant looping statement is only executed in the event that said determined condition is satisfied.

2. (Currently amended) The method of claim 1, wherein said determining said condition comprises forming a logical "AND" of said an initial condition <u>within said initial expression</u> of said variable looping statement and said an exit condition <u>within said exit expression</u> of said variable looping statement.

3. (Original) The method of claim 1, further comprising determining whether said variable looping statement includes an increasing loop index value.

4. (Original) The method of claim 3, further comprising:

    in the event that said variable looping statement includes said increasing loop index value, said determining of said lower bound comprises determining a lower bound of said initial expression of said variable looping statement.

5. (Original) The method of claim 3, further comprising:

in the event that said variable looping statement includes said increasing loop index value, said determining of said upper bound comprises determining an upper bound of said exit expression of said variable looping statement.

6. (Original) The method of claim 1 further comprising determining whether said variable looping statement includes a decreasing loop index value.

7. (Original) The method of claim 6, further comprising:

in the event that said variable looping statement includes said decreasing loop index value, said determining of said lower bound comprises determining a lower bound of said exit expression of said variable looping statement.

8. (Original) The method of claim 6, further comprising:

in the event that said variable looping statement includes said decreasing loop index value, said determining of said upper bound comprises determining an upper bound of said initial expression of said variable looping statement.

9. (Original) A system for processing a variable looping statement to enable loop unrolling, said system including a computer readable memory having one or more computer instructions stored thereon, said instructions comprising:

instructions operative to determine an upper bound and a lower bound for a loop index within said variable looping statement;

instructions operative to determine a condition that must be satisfied, said condition reflecting any conditions within an initial expression and an exit expression of said variable looping statement; and instructions operative to form a constant looping statement, wherein said upper bound and said lower bound define a range of values for a loop index within said constant looping statement, wherein said constant looping statement includes a nested conditional statement which tests said determined condition, wherein a body of said constant looping statement comprises a body of said variable looping statement, and wherein said body of said constant

4

looping statement is only executed in the event that said determined condition is satisfied.

10. (Currently amended) The system of claim 9, wherein said instructions operative to determine said condition comprise instructions operative to form a logical "AND" of said ~~said~~ an initial condition within said initial expression of said variable looping statement and ~~said~~ an exit condition within said exit expression of said variable looping statement.

11. (Original) The system of claim 9, further comprising instructions operative to determine whether said variable looping statement includes an increasing loop index value.

12. (Original) The system of claim 11, further comprising: instructions operative, in the event that said variable looping statement includes said increasing loop index value, to determine said lower bound by determining a lower bound of said initial expression of said variable looping statement.

13. (Original) The system of claim 11, further comprising: instructions operative, in the event that said variable looping statement includes said increasing loop index value, to determine said upper bound by determining an upper bound of said exit expression of said variable looping statement.

14. (Original) The system of claim 9 further comprising instructions operative to determine whether said variable looping statement includes a decreasing loop index value.

15. (Original) The system of claim 14, further comprising:

instructions operative, in the event that said variable looping statement includes said decreasing loop index value, to determine said lower bound by determining a lower bound of said exit expression of said variable looping statement.

16. (Original) The system of claim 14, further comprising: instructions operative, in the event that said variable looping statement includes said decreasing loop index

value, to determine said upper bound by determining an upper bound of said initial expression of said variable looping statement.

17. (Original) A computer program product including a computer readable medium, said computer readable medium having a computer program stored thereon, said computer program for processing a variable looping statement to enable loop unrolling, said computer program comprising:

program code for determining an upper bound and a lower bound for a loop index within said variable looping statement;

program code for determining a condition that must be satisfied, said condition reflecting any conditions within an initial expression and an exit expression of said variable looping statement; and

program code for forming a constant looping statement, wherein said upper bound and said lower bound define a range of values for a loop index within said constant looping statement, wherein said constant looping statement includes a nested conditional statement which tests said determined condition, wherein a body of said constant looping statement comprises a body of said variable looping statement, and wherein said body of said constant looping statement is only executed in the event that said determined condition is satisfied.

18. (Original) A computer data signal embodied in a carrier wave, said computer data signal including a computer program, said computer program for processing a variable looping statement to enable loop unrolling, said computer program comprising:

program code for determining an upper bound and a lower bound for a loop index within said variable looping statement;

program code for determining a condition that must be satisfied, said condition reflecting any conditions within an initial expression and an exit expression of said variable looping statement; and

program code for forming a constant looping statement, wherein said upper bound and said lower bound define a range of values for a loop index within said constant looping

statement, wherein said constant looping statement includes a nested conditional statement which tests said determined condition, wherein a body of said constant looping statement comprises a body of said variable looping statement, and wherein said body of said constant looping statement is only executed in the event that said determined condition is satisfied.

19. (Original) A system for processing a variable looping statement to enable loop unrolling, comprising:

means for determining an upper bound and a lower bound for a loop index within said variable looping statement;

means for determining a condition that must be satisfied, said condition reflecting any conditions within an initial expression and an exit expression of said variable looping statement; and

means for forming a constant looping statement, wherein said upper bound and said lower bound define a range of values for a loop index within said constant looping statement, wherein said constant looping statement includes a nested conditional statement which tests said determined condition, wherein a body of said constant looping statement comprises a body of said variable looping statement, and wherein said body of said constant looping statement is only executed in the event that said determined condition is satisfied.